



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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D4292-1

Job Sheet 183389



Part No: D4292-1

Job Qty: 4 ea

Part Name: Fitting



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/17/18

Job Tracking No:

Due Date: 10/12/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C IPP REV:A NEW ISSUE 10-11-14 JLM VERIFIED BY:DD IPP REV B: AS PER REV B 11-02-15
JLM VERIFIED BY:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea	10/12/18	10/12/18	0.00	0.00	Start Up Machining-2		SBL 18/10/24
100	Bandsaw	4 pcs	10/12/18	10/12/18	0.00	0.34	Bandsaw1		SBL 18/10/24
110	CNC Vertical Machining	4 pcs	10/12/18	10/12/18	0.51	8.23	HAAS 5 Axis		SBL 18/10/24
120	QC	4 pcs	10/12/18	10/12/18	0.00	0.00	QC2 Machining-2		SBL 18/10/24
130	QC	4 pcs	10/12/18	10/12/18	0.00	0.00	QC8 Machining-2		SBL 18/10/24
140	HandFinish	4 pcs	10/12/18	10/12/18	0.00	0.22	HandFinish1		DB 18/10/24
145	Powdercoat	4 pcs	10/12/18	10/12/18	0.00	0.30	Powdercoat1		BR 18-10-24
150	QC	4 pcs	10/12/18	10/12/18	0.00	0.00	QC3		
151	Small Fab	4 pcs	10/12/18	10/12/18	0.00	0.18	Small Fab-6		
152	QC	4 pcs	10/12/18	10/12/18	0.00	0.00	QC5		
180	Packaging	4 pcs	10/12/18	10/12/18	0.00	0.00	Packaging3-2		
190	QC21-SA	4 Ea	10/12/18	10/12/18	0.00	0.00	QC21		

Part Op 100 - Cut Blank to 6.250" ****GRAIN DIRECTION MUST BE ALONG 4.00"*****
Descriptions: 110 - 1-Machine per folio FB002
145 - MASK THREADED HOLE
151 - INSTAL HELICOIL

OCT 25 2018
21
9-89

M138951 START: 3:40 OVF: 3:00 FINISH: 4:10.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T73B4.000x4.000	7075-T73 Bar 4.0 X 4.0 Grain Direction Along 4" Wide	2.0800 ft (.52 ea)	90-Start up Operation	5043346
MS21209F1-10	Heli Coil	4 Ea (1 ea)	151-Small Fab	5044218

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T73B4.000x4.000	2	27	0
151-Small Fab	MS21209F1-10	4	20	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Fitting	0.063Inches ± 0.010	0.073 0.053	csk	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date : _____ Description Work Order Deviation	DISPOSITION	AGAINST DEPARTMENT/PROCESS Part: D4292-1 Job No: 183389 Serial No/Batch: S120939 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: Various STC's Date: 10/24/18 Container No: S120939 Uart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging Supplier ☐ Engineering ☐ Quality ☐ Other ☐	MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval
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Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

2	Fitting	0.250Inches + 0.030 - 0.010	0.280 0.240	
3	Fitting	0.125Inches + 0.030 - 0.010	0.155 0.115	
4	Fitting	2.950Inches ± 0.030	2.980 2.920	
5	Fitting	0.275Inches ± 0.010	0.285 0.265	
6	Fitting	0.800Inches ± 0.010	0.810 0.790	
7	Fitting	0.825Inches ± 0.010	0.835 0.815	
8	Fitting	0.375Inches ± 0.010	0.385 0.365	
9	Fitting	0.310Inches ± 0.030	0.340 0.280	
10	Fitting	0.880Inches ± 0.030	0.910 0.850	
11	Fitting	0.663Inches ± 0.010	0.673 0.653	
12	Fitting	0.381Inches + 0.000 - 0.001	0.381 0.380	
13	Fitting	1.125Inches ± 0.010	1.135 1.115	
14	Fitting	1.063Inches ± 0.010	1.073 1.053	
15	Fitting	3.440Inches ± 0.030	3.470 3.410	
16	Fitting	2.450Inches ± 0.010	2.460 2.440	
17	Fitting	1.325Inches ± 0.010	1.335 1.315	
18	Fitting	0.300Inches ± 0.010	0.310 0.290	
19	Fitting	1.200Inches ± 0.010	1.210 1.190	
20	Fitting	2.840Inches ± 0.030	2.870 2.810	
21	Fitting	0.190Inches ± 0.030	0.220 0.160	
22	Fitting	5.860Inches ± 0.030	5.890 5.830	
23	Fitting	5.990Inches ± 0.030	6.020 5.960	
24	Fitting	0.272Inches + 0.006 - 0.001	0.278 0.271	
25	Fitting	0.266Inches + 0.006 - 0.001	0.272 0.265	
26	Fitting	1.750Inches ± 0.030	1.780 1.720	
27	Fitting	0.250Inches ± 0.030	0.280 0.220	Radius
28	Fitting	0.060Inches ± 0.030	0.090 0.030	Radius
29	Fitting	4.875Inches ± 0.010	4.885 4.865	
30	Fitting	0.493Inches ± 0.010	0.503 0.483	
31	Fitting	0.765Inches ± 0.010	0.775 0.755	c-bore
32	Fitting	0.250Inches + 0.030 - 0.010	0.280 0.240	
33	Fitting	0.680Inches ± 0.010	0.690 0.670	
34	Fitting	2.250Inches ± 0.010	2.260 2.240	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

35	Fitting	4.500Inches ± 0.010	4.510 4.490	
36	Fitting	1.275Inches ± 0.010	1.285 1.265	
37	Fitting	0.031Inches ± 0.010	0.041 0.021	Radius
38	Fitting	0.130Inches ± 0.030	0.160 0.100	Radius
39	Fitting	1.650Inches ± 0.030	1.680 1.620	
40	Fitting	1.421Inches ± 0.010	1.431 1.411	

Plex 9/17/18 12:46 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order: 183 389
Description: Fitting		Part Number: D4292-1
Inspection Dwg: D4292	Rev: C	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.063	+/-0.010	0.063	✓		R.G.	
0.250	+0.030/-0.010	0.257	✓		Vern	sep-01
0.125	+0.030/-0.010	0.132	✓		"	
2.95	+/-0.030	2.952	✓		"	
0.275	+/-0.010	0.278	✓		"	
0.800	+/-0.010	0.798	✓		✓	
0.825	+/-0.010	0.823	✓		✓	
0.375	+/-0.010	0.377	✓		"	
0.31	+/-0.030	0.310	✓		"	
0.88	+/-0.030	0.883	✓		"	
0.663	+/-0.010	0.665	✓		"	
Ø0.381	+0.000/-0.001	0.380	✓			
1.125	+/-0.010	1.125	✓			
1.063	+/-0.010	1.065	✓		"	
3.44	+/-0.030	3.441	✓		Vern	sep-01
2.450	+/-0.010	2.451	✓		"	
1.325	+/-0.010	1.327	✓			
0.300	+/-0.010	0.301	✓			
1.200	+/-0.010	1.203	✓			
2.84	+/-0.030	2.835	✓			
0.19	+/-0.030	0.190	✓			
5.86	+/-0.030	5.863	✓			
5.99	+/-0.030	5.995	✓			
Ø0.272	+0.006/-0.001	0.272	✓		P.G.	
Ø0.266	+0.006/-0.001	0.266	✓		P.G.	
1.75	+/-0.030	1.752	✓		Vern	sep-01
R0.25	+/-0.030	0.250	✓		R.G.	
R0.06	+/-0.030	0.0625	✓		R.G.	
4.875	+/-0.010	4.876	✓		Vern	sep-01
0.493	+/-0.010	0.491	✓		"	
C-bore Ø0.765	+/-0.010	0.763	✓			
0.250	+0.030/-0.010	0.247	✓		"	
0.680	+/-0.010	0.679	✓			
2.250	+/-0.010	2.250	✓			
4.500	+/-0.010	4.500	✓			
R1.275	+/-0.010	1.275	✓			
R0.031	+/-0.010	0.031	✓		R.G.	0.031

DART AEROSPACE LTD		Work Order:	183 389
Description: Fitting		Part Number:	D4292-1
Inspection Dwg: D4292 Rev: C			Page 2 of 2

FIRST ARTICLE INSPECTION CHECKLIST

[illegible]

Measured by: DAS	Audited by: 	Preliminary Approval:
Date: 57 9-89 18/10/24	Date: 18/10/24	Date:

Rev	Date	Change	Revised by	Approved
A	11.07.26	New Issue	KJ	